▦▦ALTS

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January 14, 1998

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FEDERAL COMMUNICATIONS COMMISSION
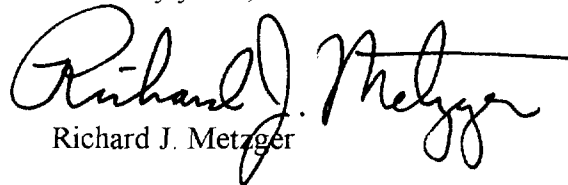OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M St., N.W.
Washington, D.C. 20054

Re: Petition for Expedited Rulemaking - Implementation
       of the Local Competition Provisions in the Telecommunications
       <u>Act of 1996; CC Docket No. 96-98/RM-9101</u>

Dear Ms. Salas:

Today I met with Mr. Jake Jennings, Ms. Rodhika Kermarkar, Mr. Brent Olson, and Ms. Wendy Lader of the Common Carrier Bureau to supply and discuss ALTS' Service Quality Measurements, Version 1.0. A copy of this document is enclosed.

Sincerely yours,

Richard J. Metzger

cc: J. Jennings (w/o enc)
       C. Mattey (enc)
       M. McDermott - USTA (enc)

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Service Quality Measurements

ASSOCIATION FOR LOCAL
TELECOMMUNICATIONS SERVICES (ALTS)

December 9, 1997

Version 1.0

Prepared for:

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Introduction

On August 8, 1996, the Federal Communications Commission released its First Report and Order in CC Docket No. 96-98 establishing regulations to implement the requirements of the Telecommunications Act of 1996. On February 12, 1997, the Local Competition Users Group (LCUG) issued their "Foundation for Local Competition: Operations Support Systems Requirements for Network Platform and Total Services Resale". This latter document began to structure the basic tenets for Service Parity, Performance Measurement, Electronic Interfaces, Systems Integrity Notification of Change, and Standards Adherence.

On July 30, 1997, the Association for Local Telecommunications Services (ALTS) submitted reply comments to the Federal Communications Commission (FCC), supporting the work of the LCUG group and requesting expedited rulemaking on the "Implementation of the Local Competition Provisions in the Telecommunications Act of 1996".

Through subsequent sub-committee work, LCUG has developed a "comprehensive list of potential measurements" to address ILEC (Incumbent Local Exchange Carrier) OSS (Operation Support System) performance in the areas of pre-ordering, ordering and provisioning, maintenance and repair, network performance, unbundled elements, operator services and directory assistance, system performance, service center availability, and billing. SQMs (Service Quality Measurements) goals have been established to provide "a nondiscrimination standard in the absence of directly comparative (actual) ILEC results" which the ILECs have been reluctant or unwilling to share.

ALTS fully supports the work done by the LCUG, but also recognizes that its CLEC membership may have somewhat differing needs. Therefore, ALTS has been working with a sub-committee of LCUG, as well as representatives from its own membership to form a WIPS (Workgroup on ILEC Performance Standards). The WIPS charter is to ensure that critical measurement needs are available for its membership in either the LCUG document, or the complementary ALTS document contained herein. It is not the intent of the WIPS to design an entirely new document, but merely to accept and support the concepts and measurements described in the LCUG SQM document, yet supplement those measurement categories that are of special interest to ALTS Membership. Indeed, sections of the following document are lifted directly out of the latest LCUG SQM Version 6.1, dated September 26, 1997, to reinforce the WIPS desire to build a common performance measurement foundation, rather than reinvent a new one.

See LCUG SQM document version 6.1 dated September 26,1997
See Petition for Expedited Rulemaking (including Appendices A & B) by LCI International Telecom Corp. and Competitive Telecommunications Association (CompTel) dated May 30, 1997

Service Quality Measurements

Introduction

A basic requirement for the ALTS Service Quality Measurements (SQM) document is to adhere as much as possible to the format of LCUG Version 6.1. Therefore, as the ALTS addendum items are discussed, portions of the LCUG have been described as directly applicable. At the same time, it is clear to the ALTS membership that some issues, such as Network Performance, Emergency Services, and Collocation Provisioning need to be further defined and developed for measurement purposes. Overall, the ALTS document accomplishes the following:

- Recognizes, accepts and supports the basic measurement foundation established in the LCUG Version 6.1
- Modifies those LCUG sections, such as Order Provisioning, to include proposed ALTS measurements. For example, in the case of Order Provisioning, ALTS adds measures, within the LCUG framework, to consider Customer Desired Due Dates Met, and Interim Number Portability Coordinated Orders.
- Describes addendum items that complement LCUG direction, yet offer a new dimension to more clearly satisfy ALTS membership requirements.

The LCUG Version 6.1 "Measurement Plans" description and "Business Rules" described in the LCUG document Introduction will apply to the ALTS SQM document, as well. These include comments and definitions related to the following:

- Test for Parity
- Benchmarking Study Requirements
- Reporting Expectations and Report Format
- Delivery of Reports and Data
- Geographic Reporting
- Verification and Auditing
- Adaptation

Service Quality Measurements

Executive Overview

This Executive Overview section:

- Acts as an addendum to the LCUG Executive Overview
- Provides a summary of the detailed requirements
- Enables a quick overview and understanding of the proposed ALTS measurements
- Summarizes the Business Implications associated with each measurement
- Accommodates a target audience who has a need to know about the measurements, but not the specific details

Service Quality Measurements

Executive Overview

Network Performance (NP)

Network Interconnection Performance	
- The perceived quality of CLEC retail services, particularly when either ILEC services are resold or UNEs are employed, will be heavily influenced by the underlying quality of the ILEC performance - Interconnection with the ILEC network, whether for facilities or equipment, needs to be provided at a level of quality that is equal to that which the ILEC provides itself, a subsidiary, an affiliate, or any other party - The quality of CLEC service to customers is directly dependent on adequacy of trunking capacity at the ILEC	
Percent Trunk Blockage	- By end office to access tandem trunk group - By final trunk group

Service Quality Measurements

Executive Overview

Emergency Services (ES)

Timeliness of Updating the Database

- ILECs historically "own" and control the 911 databases, which CLECs provide input to for their customers
- Timely update of the 911/E911 database for customer location, telephone numbers, and selective router can indeed become a "life and death" situation as customers attempt to reach emergency help dialing 911/E911
- CLECs can not offer Local Exchange Service without 911/E911 capability

• Mean Database Update Interval • Percent Updates Completed within 24 Hours	• By order update to include customer location and number • By order update to include selective router for proper dispatch center

Accuracy of Database

- Accurate update of the 911/E911 database for customer location, telephone numbers, and selective router can indeed become a "life and death" situation as customers attempt to reach emergency help dialing 911/E911

• Percent Database Accuracy	• By order update for Customer location, telephone number • By selective router

Provisioning of 911/E911 Trunks

- Customer service reaching 911/E911 is of critical importance
- CLEC Customers need to be able to access the ILEC 911/E911 office on the first try due to the nature of their emergency situations
- CLECs cannot offer Local Exchange Service without 911/E911 capability

• Mean interval to provision 911 trunks • Percent trunks completed within 15 days • Percent Trunk blockage	• By trunks added • Trunks measured every half-hour for peg count, overflow and usage. • Reported on a Busy Hour basis.

Service Quality Measurements

Executive Overview

Emergency Services (ES)

System availability to the MSAG (Master Street Access Guide)
- The 911/E911 capability works properly when, after having dialed "911", a customer calling into the Dispatch Center, can accurately have their telephone number associated with the correct street address, and thus receive dispatched help quickly   - CLECs need the addresses contained in the MSAG under the jurisdiction of the ILEC, to be able to associate the correct address with each telephone number   - Fast response time in obtaining MSAG information is important in order that the appropriate 911/E911 databases can be updated promptly and accurately

• Percent MSAG system availability	• By MSAG interface

Service Quality Measurements

Executive Overview

Collocation Provisioning (CP)

Physical and Virtual Collocation commitments Met
• Due to the natural evolution of local telephone services over the years, ILECs own, rent, or lease buildings in most cities and towns. Many of these buildings house ILEC Central Office switches and equipment, giving them an advantage in the immediate marketplace. These same buildings often have extra space, due to technology compressing the size of equipment over time. • In order to be able to compete and to install necessary equipment to do so, CLECs need access to space available in ILEC buildings and Remote locations • ILECs need to respond in a timely fashion to CLEC requests • To serve its own customers in a timely fashion, CLECs need to be able to count on ILECs meeting commitments for Physical and Virtual Collocation

• Mean response to request interval • Percent responses received within 5 business days • Percent of Physical Commitments Met • Percent of Virtual Commitments Met	• By request • By Central Office

Service Quality Measurements

Formula Quick Reference

	Measurement Description by Business Process:	Measurement Formula:
NP-2	Percent Trunk Blockage	Percent Trunk Blockage = [(Busy Hour Overflow Count) / (Busy Hour Peg Count) During Report Period] x 100
ES-1	Mean Database Update Interval	Mean Database Update Interval = $\sum$[(Completion Date&Time)-(Update Submission Date&Time)]/(Count of Updates Completed in Reporting Period)
ES-2	Percent Updates Completed within 24 Hours	Percent Updates Completed within 24 Hours = [(Count of Updates Completed within 24 Hours)/(Count of Updates Completed in Reporting Period)] x 100
ES-3	Percent Database Accuracy	Percent Database Accuracy = [(Count of Updates Completed w/o error) / (Count of Updates Completed)] x 100
ES-4	Mean Interval to Provision 911/E911 trunks	Mean Interval to Provision 911/E911 Trunks = $\sum$[(Completion Date and Time) – (Trunk Order Submission Date and Time)]/(Number of 911/E911 Trunks Completed in Reporting Period
ES-5	Percent trunks completed within 15 days	Percent Trunks Completed within 15 Days = [(Count of Trunks completed within 15 Days)/(Count of Trunks Completed in Reporting Period)] x 100
ES-6	Percent Trunk Blockage	Percent Trunk Blockage = [(Busy Hour Overflow Count)/ (Busy Hour Peg Count) during Report Period] x 100
ES-7	Percent MSAG System Availability	Percent MSAG System Availability = [(Hours MSAG is Available to CLECs During Reporting Period)/(Number of Hours MSAG was Scheduled to be Available During Reporting Period)] x 100

Service Quality Measurements

Formula Quick Reference

CP-1	Mean Response to Request Interval	**Mean Response to Request Interval = Σ[(Request Response Date&Time) – (Request Submission Date&Time)]/(Count of Requests Submitted in Reporting Period)**
CP-2	Percent Responses Received within 5 Business Days	**Percent Responses Received within 5 Business Days = [(Count of Responses received within 5 Business Days)/(Count of Requests Submitted in Reporting Period)] x 100**
CP-3	Percent Physical Commitments Met	**Percent Physical Commitments Met = [(Count of Physical Commitments Met)/(Count of Physical Commitments in Reporting Period)] x 100**
CP-4	Percent Virtual Commitments Met	**Percent Virtual Commitments Met = [(Count of Virtual Commitments Met)/(Count of Virtual Commitments in Reporting Period)] x 100**

Service Quality Measurements

Measurement Detail

The Measurement Detail section:

- Acts as an addendum to the LCUG Measurement Detail
- Provides explicit detail information for each measurement
- Provides business reasons for the measurement, required data elements, analogs to the existing ILEC business function and comparative results suggestions
- Is targeted at those individuals who need to know and understand the detail categories and measurement methodologies

Service Quality Measurements

Measurement Detail

Ordering and Provisioning (OP)

In order to be successful in the marketplace, CLECs must be capable of delivering service in time frames equal to or better than what the ILEC delivers for comparable service configurations. Likewise, when the CLEC commits to a due date for service delivery, the customer plans for service availability have been established and the customer will be dissatisfied if the requested service or feature is not delivered when promised. The "average completion interval" measure monitors the time required by the ILEC to deliver integrated and operable service components requested by the CLEC, regardless of whether service resale or unbundled network elements are employed. When the service delivery interval of the ILEC is measured for comparable services, then conclusions can be drawn regarding whether or not CLECs have a reasonable opportunity to compete for customers. The "orders completed on time" measure monitors the reliability of ILEC commitments with respect to committed due dates to assure that CLECs can reliably quote expected due dates to their retail customer. In addition, when monitored over time, the "average completion interval" and "percent completed on time" may prove useful in detecting developing capacity issues. _The "Percent Customer Desired Due Date Met" measures the ILEC performance against what the CLEC customer requested versus the ILEC commitment made based on the ILECs own internal requirements which do not necessarily consider customer needs. The "Average Completion for INP Coordinated Orders" that involve Interim Number Portability (INP), and the "Percent of INP Coordinated Orders with Disconnection, Loop Provisioning, and NP done within 5 minutes of Each Other" monitor the quality of work done by the ILEC when physical connections and software updates must be completed at the same time to prevent customer outage and poor service. CLEC ability to receive quality Number Portability work is critical to their ability to compete in the marketplace._

Average Completion Interval = Σ [(Completion Date & Time) - (Order Submission Date & Time)]/(Count of Orders Completed in Reporting Period)

Percent Orders Completed on Time = [(Count of Orders Completed within ILEC Committed Due Date) / (Count of Orders Completed in Reporting Period)] x 100

Percent Customer Desired Due Date Met = [(Count of Orders that met the Customer Desired Due Date)/ (Count of Orders Completed in Reporting Period)] x 100

Average Completion for INP Coordinated Orders = Σ[(Completion Date and Time) – (Order Submission Date &Time)] /(Count of Orders Completed in Reporting Period)

Percent of INP Coordinated Orders with Disconnection, Loop Provisioning, and NP done within 5 minutes of Each Other = [(Count of INP Coordinated Orders with Disconnection, Loop Provisioning, and NP done within 5 minutes of each other)/(Count of INP Coordinated Orders with Disconnection, Loop Provisioning, and NP completed in Reporting Period)] x 100

Service Quality Measurements

For CLEC Results: The actual completion interval is determined for each order processed during the reporting period. The completion interval is the elapsed time from the ILEC receipt of a syntactically correct order from the CLEC to the ILEC's return of a valid completion notification to the CLEC. Elapsed time for each order is accumulated for each reporting dimension (see below). The accumulated time for each reporting dimension is then divided by the associated total number of orders completed within the reporting period.

The percentage of orders completed on time is determined by first counting, for each specified reporting dimension, both the total numbers of orders completed within the reporting interval and the number of orders completed by the committed due date (as specified on the initial FOC returned to the CLEC). For each reporting dimension, the resulting count of orders completed no later than the committed due date is divided by the total number of order completed with the resulting fraction expressed as a percentage.

For ILEC Results: The ILEC computation is identical to that for the CLEC with the clarifications noted below.

Other Clarifications and Qualification:

- The elapsed time for an ILEC order is measured from the point in time when the ILEC customer service agent enters the order into the ILEC order processing system until the date and time reported by the ILEC installation personnel log actual completion of all work necessary to permit service initiation, whether or not the ILEC initiates customer billing at that point in time.
- Results for the CLECs are captured and reported at the order level (e.g., unique PON).
- The Completion Date is the date upon which the ILEC issues the Order Completion Notice to the CLEC.
- If the CLEC initiates a supplement to the originally submitted order and the supplement reflects changes in customer requirements (rather than responding to ILEC initiated changes), then the order submission date and time will be the date and time of the ILEC receipt of a syntactically correct order supplement.
- No other supplemental order activities will result in an update to the order submission date and time used for the purposes of computing the order completion interval.
- See "Order Status" metric sheet for discussion of ILEC analogs receipt of a syntactically correct _order_ and return of a valid completion notice.
- Elapsed time is measured in hours and hundredths of hours rounded to the nearest tenth of an hour.
- Because this should be a highly automated process, the accumulation of elapsed time continues through off-schedule, weekends and holidays.

• Service - Standard Service Groupings (See Appendix A) • Activity - Standard Order Activities (See Appendix A) Geographic Scope	• Canceled orders • Initial Order when supplemented by CLEC • ILEC Orders associated with internal or administrative use of local services

Service Quality Measurements

• Report Month • CLEC Order Number • Order Submission Date • Order Submission Time • Order Completion Date • Order Completion Time • Service Type • Activity Type • Geographic Scope	• Report Month • Average Order Completion Interval • Standard Error for the Order Completion Interval • Service Type • Activity Type • Geographic Scope

If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete:

- Unless otherwise noted, the order completion interval for installations that do not require a premise visit and do not require anything beyond software updates is 1 business day.
- Unless otherwise noted, the order completion intervals for installations that involve a premise visit or physical work is three business days.
- Installation Interval Exceptions:
    - *The installation interval for INP Coordinated Orders with Disconnection, Loop Provisioning, and NP requires that all of these activities be completed within 5 minutes of each other.*
    - UNE Platform (at least DS0 loop + local switching + common transport elements) installation interval is 1 business day whether or not premise work is required.
    - The installation interval for unbundled loops is always 1 business day.
    - UNE Channelized DS1 (DS1 unbundled loop + multiplexing) installation interval is within 2 business days.
    - Unbundled Switching Element installation interval is within 2 business days
    - DS0/DS1 Dedicated Transport installation interval is within 3 business days
    - All other Dedicated Transport installation interval is within 5 business days.
- The installation interval for all orders involving only feature modification is 5 hours, *unless otherwise noted.*
- *Unless otherwise noted,* Order completion interval for all disconnection orders is 1 business day.

Note: Pages 13-15 have been directly modified from the LCUG document Version 6.1. Changes are noted in <u>Underlined Italics.</u>

Service Quality Measurements

Measurement Detail

Network Performance (NP)

The perceived quality of CLEC retail services, particularly when either ILEC services are resold or UNEs are employed, will be heavily influenced by the underlying quality of the ILEC performance. Interconnection with the ILEC network, whether for facilities or equipment, needs to be provided at a level of quality that is equal to that which the ILEC provides itself, a subsidiary, an affiliate, or any other party. The quality of CLEC service to customers is directly dependent on adequacy of trunking capacity within the ILEC network, and between the ILEC network and the CLEC network.

Percent Trunk Blockage = [(Busy Hour Overflow Count)/(Busy Hour Peg Count) during the Reporting Period] x 100

For CLEC Results: This metric is computed at the end of the reporting period. It looks at the busiest hour during the reporting period as defined by the highest peg count (call attempts on the trunk group). It then determines for that hour the count of overflow (those call attempts that were blocked due to inadequate trunking, trunks turned down due to maintenance, or other Network failures). It then computes the percentage of blocking for that busy hour. Percentage of blocking for trunk groups is monitored from the CLEC to the ILEC end office, CLEC to ILEC local tandem, and CLEC to ILEC Access tandem.

For ILEC Results: This metric is computed at the end of the reporting period. It looks at the busiest hour during the reporting period as defined by the highest peg count (call attempts on the trunk group). It then determines for that hour the count of overflow (those call attempts that were blocked due to inadequate trunking, trunks turned down due to maintenance, or other Network failures). It then computes the percentage of blocking for that busy hour. Percentage of blocking for trunk groups is monitored from ILEC end office to ILEC end office, ILEC end office to local tandem, and ILEC end office to access tandem.

Other Clarifications and Qualifications: Trunk Group sizing is based on the Engineering criteria of "Grade of Service" and often refers to the "Poisson Tables" to quantify levels of service (such as, P.01 GOS which translates into 1 in 100 blocked calls, or 1% blockage).

• Grade of Service (See Appendix A) • Geographic Scope	• None

Service Quality Measurements

• Report Month • Reporting Dimension • Trunk Group Type • Trunk Group Designation Identifying "from and to" Points • Geographic Scope	• Report Month • Reporting Dimension • Trunk Group Type • Trunk group Designation Identifying "from and to" Points • Geographic Scope
	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then results related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • End office to End office .5% blockage • End office to Local tandem .5% blockage • End office to Access Tandem .5% blockage • Final trunk groups 1% blockage

Service Quality Measurements

Measurement Detail

Emergency Services (ES)

CLECs are committed to providing emergency services to their customers. ILECs historically "own" and control the 911 databases, which CLECs provide input to for their customers. Timely update of the 911/E911 database for customer location and telephone numbers included in the Automatic Location Identifier (ALI), is necessary in order that emergency services can be promptly dispatched to the proper location should an emergency occur. In addition, the selective router that determines which dispatch center is associated with each customer, must also be updated by the ILEC. Timeliness of these updates can indeed become a "life and death" situation as customers attempt to reach emergency help dialing 911/E911. For the aforementioned reasons, as well as the fact that States require CLECs to offer 911/E911 capability, it is important that ILEC Emergency Services databases be promptly updated to reflect CLEC customer information.

Mean Database Update Interval = Σ[(Completion Date&Time) - (Update Submission Date&Time))]/(Count of Updates Completed in Reporting Period)

Percent Updates Completed within 24 Hours = [(Count of Updates Completed within 24 Hours)/(Count of Updates Completed in Reporting Period)] x 100

For CLEC Results: The actual completion interval is determined for each update processed during the reporting period. The completion interval is the elapsed time from the ILEC receipt of a syntactically correct update from the CLEC to the ILEC's return of a valid completion notification to the CLEC. Elapsed time for each update is accumulated for each reporting dimension (see below). The accumulated time for each reporting dimension is then divided by the associated total number of updates completed within the reporting period.

The percentage of updates completed on time is determined by first counting, for each specified reporting dimension, both the total numbers of updates completed within the reporting interval and the number of updates completed by the committed due date (as specified on the initial FOC returned to the CLEC). For each reporting dimension, the resulting count of updates completed no later than the committed due date is divided by the total number of updates completed with the resulting fraction expressed as a percentage.

For ILEC Results: The ILEC computation is identical to that for the CLEC with the clarifications noted below.

Service Quality Measurements

Other Clarifications and Qualification:

- The elapsed time for an ILEC update is measured from the point in time when the ILEC customer service agent enters the order into the ILEC order processing system until the date and time reported by the ILEC that 911/E911 updates are completed.
- Results for the CLECs are captured and reported at the update level by Reporting Dimension (see below).
- The Completion Date is the date upon which the ILEC issues the Update Completion Notice to the CLEC.
- If the CLEC initiates a supplement to the originally submitted update and the supplement reflects changes in customer requirements (rather than responding to ILEC initiated changes), then the update submission date and time will be the date and time of the ILEC receipt of a syntactically correct update supplement.
- No other supplemental update activities will result in a change to the update submission date and time used for the purposes of computing the update completion interval.
- Elapsed time is measured in hours and hundredths of hours rounded to the nearest tenth of an hour.
- Because this should be a highly automated process, the accumulation of elapsed time continues through off-schedule, weekends and holidays.

• Customer address • Customer telephone number • Customer Selective Router • Geographic Scope	• Updates Canceled by the CLEC • Initial update when supplemented by CLEC • ILEC updates associated with internal or administrative use of local services

• Report Month • CLEC Update Number • Update Submission Date • Update Submission Time • Update Completion Date • Update Completion Time • Reporting Dimension • Geographic Scope	• Report Month • Average Update Completion Interval • Reporting Dimension • Geographic Scope

If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete:

- The update interval is always within 24 hours.

Service Quality Measurements

Measurement Detail

Due to the emergency nature of dealing with 911/E911 databases, the business implications of ensuring that databases be both updated promptly and updated accurately, are similar. CLECs are committed to providing emergency services to their customers. ILECs historically "own" and control the 911 databases, which CLECs provide input to for their customers. Timely and accurate update of the 911/E911 database for customer location and telephone numbers included in the Automatic Location Identifier (ALI), is necessary in order that emergency services can be promptly dispatched to the proper location should an emergency occur. In addition, the selective router that determines which dispatch center is associated with each customer, must also be updated by the ILEC. Timeliness and accuracy of these updates can indeed become a "life and death" situation as customers attempt to reach emergency help dialing 911/E911. For the aforementioned reasons, as well as the fact that States require CLECs to offer 911/E911 capability, it is important that ILEC Emergency Services databases be accurately updated to reflect CLEC customer information.

Percent Database Accuracy = [(Count of Updates Completed w/o error)/(Count of Updates Completed)] x 100

For CLEC Results: For each update completed during the reporting period, the original update that the CLEC sent to the ILEC is compared to the customer address and telephone number reflected in the database following completion of the update in the ALI by the ILEC. In addition, the "selective router" must be updated by the ILEC at the same time, to ensure that the correct dispatch center is entered for each telephone number. .An update is "completed without error" if all updates and changes (as determined by comparing the original and the post update completion, and the Selective Router table) completely and accurately reflect the activity specified on the original and supplemental CLEC updates and proper selective router. "Total number of updates completed" refers to update completions received by the CLEC from the ILEC for each reporting dimension identified below.

For ILEC Results: Same computation as for the CLEC with the clarifications noted below.

Other Clarifications and Qualification:

- **Update Supplements -** If the CLEC initiates any supplements to the originally submitted update, for the purposes of reflecting changes in customer requirements, then the cumulative effect of the initial update and all the supplemental updates will be determined by comparison of the pre- and post update completions.
- **Completion Notices -** To the extent that the ILEC supplies a completion notice containing sufficient information to perform validation of database update accuracy, then the Completion Notice information can be utilized in lieu of the comparison of the "before" and "after" views. Use of the completion notice for this purpose would need to be at the mutual agreement of the ILEC and the CLEC.
- **All Updates -** The comparison is between the CLEC update and the database as it existed before and after completion.

Service Quality Measurements

	• Sampling may be utilized to establish database update accuracy provided the results produced are consistent with the reporting dimensions specified, the sample methodology is disclosed in advance and reflects generally accepted sampling methodology, and the sampling process may be audited by the CLEC.

• Customer Address • Customer Telephone number • Customer Selective Router • Geographic Scope	• Updates canceled by the CLEC • Initial update when supplemented by CLEC • ILEC updates associated with internal or administrative use of local services

• Report Month • CLEC Update Number • Percent database update accuracy • Reporting Dimension • Geographic Scope	• Report Month • Percent database update accuracy • Reporting Dimension • Geographic Scope

	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: Completed CLEC updates, by reporting dimension, are accurate no less than 99.9% of the time.

Service Quality Measurements

Measurement Detail

CLECs cannot offer Local Exchange Service without a 911/E911 capability. In order for CLEC customers to be able to access the ILEC 911/E911, ILEC office trunk facilities need to be installed in a timely fashion. They also need to be provided in a quantity to minimize the risk of trunk blockage, which could prevent critical emergency call attempts from reaching 911. CLEC Customers need to be able to access the ILEC 911/E911 office on the first try due to the nature of their emergency situations.

Mean Interval to Provision 911/E911 Trunks = $\sum$[(Completion Date and Time) – (Trunk Order Submission Date and Time)]/(Number of 911/E911 Trunks Completed in Reporting Period

Percent Trunks Completed within 15 Days = [(Count of Trunks completed within 15 Days)/(Count of Trunks Completed in Reporting Period)] x 100

Percent Trunk Blockage = [(Busy Hour Overflow Count)/ (Busy Hour Peg Count) during Report Period] x 100

For CLEC Results: The "Mean Interval to Provision 911/E911 Trunks" monitors how long it takes the ILEC to add trunks, utilized by CLEC customers, to improve capacity incoming to the ILEC 911/E911 office. The actual completion interval is determined for each trunk added during the report period. The completion interval is the elapsed time from receipt of a request from the CLEC (or from creation of the trunk order by the ILEC, if self-initiated), until return of a valid completion notification to the CLEC. The accumulated time is then divided by the associated total number of 911/E911 incoming trunks added within the report period.

The "Percent Trunks Completed within 15 days" monitors the ILEC ability to respond within 15 days to add trunks, utilized by CLEC customers to access the ILEC 911/E911 office. The percentage of trunks added in 15 days is determined by first counting, both the total numbers of 911/E911 trunks completed within the reporting interval and the number of 911/E911 trunks completed within 15 days. (as specified on the on the completion notification returned to the CLEC). The resulting count of trunks completed no later than 15 days is divided by the total number of 911/E911 trunks completed with the resulting fraction expressed as a percentage.

Service Quality Measurements

The "Percent (911/E911) Trunk Blockage" monitors overflow situations during the busiest hour of the Reporting Period for those trunk groups accessed by CLEC customers to reach the ILEC 911/E911 office. This metric is computed at the end of the reporting period. It looks at the busiest hour during the reporting period as defined by the highest peg count (call attempts on the trunk group). It then determines for that hour the count of overflow (those call attempts that were blocked due to inadequate trunking, trunks turned down due to maintenance, or other Network failures). It then computes the percentage of blocking for that busy hour. Percentage of blocking for trunk groups is monitored from the CLEC to the ILEC 911/E911 office.

For ILEC Results: the ILEC computation is identical to that for the CLEC with the clarifications noted below.

- Elapsed time is measured in days, hours and hundredths of hours rounded to the nearest tenth of an hour.
- Because this should be a highly automated process, the accumulation of elapsed time continues through off-schedule, weekends and holidays.
- Percentage of blocking for trunk groups is monitored from the ILEC end office to ILEC 911/E911 office and from the ILEC tandem to the ILEC 911/E911 office.

• 911/E911 Incoming Trunk Adds • 911/E911 Incoming Trunk Groups • Grade of Service (see Appendix A)	• None

• Report Month • Reporting Dimensions • 911/E911 Trunk Order Submission Date • 911/E911 Trunk Order Submission Time • 911/E911 Trunk Order Completion Date • 911/E911 Trunk Order Completion Time • Trunk Group Designation Identifying "to and from " points • Geographic Scope	• Report Month • Average 911/E911 Trunk Order Completion Interval • Reporting Dimensions • Geographic Scope

If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete:

- 911/E911 incoming trunk adds completed within 15 days
- Trunk blockage on 911/E911 incoming trunk groups at .5% or less

Measurement Detail

The 911/E911 capability works properly when, after having dialed "911", a customer calling into the Dispatch Center, can accurately have their telephone number associated with the correct street address, and thus receive dispatched help quickly. CLECs need the addresses contained in the MSAG, under the jurisdiction of the ILEC, to be able to associate the correct address with each telephone number. Fast response time in obtaining MSAG information is important in order that the appropriate 911/E911 databases can be updated promptly and accurately.

Percent MSAG System Availability = [(Hours MSAG is Available to CLECs During Reporting Period)/(Number of Hours MSAG was Scheduled to be Available During Reporting Period)] x 100

For CLEC Results: The total "number of hours MSAG was scheduled to be available" is the cumulative number of hours (by date and time on a 24 hour clock) over which the ILEC planned to offer and support CLEC access to ILEC OSS functionality during the reporting period. The ILEC must provide a minimum advance notice of one reporting period regarding availability plans and such plans must be interface-specific. If scheduled availability is not provided with at least one report period advance notice then the default availability for the subsequent reporting period will be seven days per week, 24 hours per day.

"Hours Functionality is Available" is the actual number of hours, during scheduled available time, that the ILEC gateway or interface is capable of accepting CLEC transactions or data files for processing in the gateway / interface and MSAG OSS(Operation Support System).

The actual time available is divided by the scheduled time available and then multiplied by 100 to produce the "Percent MSAG system availability" measure.

For ILEC Results: The "available time" and "scheduled available time" is gathered for the MSAG ILEC OSS during the report period. The MSAG ILEC OSS availability is computed based upon the weighted average availability. That is, the available time for the MSAG is accumulated over the report period and then divided by the summation of the scheduled available time for the MSAG.

Other Clarifications and Qualifications:

- Parity exists if the CLEC "Percent MSAG System Availability " is equal to or better than ILEC MSAG System Availability.
- "Capability of accepting" must have a meaning consistent with the ILEC definition of "down time" , whether planned or unplanned, for internal ILEC systems having a comparable potential for customer impact.
- Time is measured in hours and tenths of hours rounded to the nearest tenth of an hour.